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though still far off—how beautiful she is in her black riding-dress,—above which she wears a wondrously dainty little scarlet jacket,—in her black velvet hat and feather, and with her splendid hounds and pony. Wild as the careering rooks above her head, she gallops round and round the great field, leaping ditches, making her pony curvet and rear, free and bold as the wind which rushes through her fair hair, that in a luxuriant mass is allowed to float beneath her velvet hat.

Johnny feels quite sick at heart,—he feels someway as though he had been bold enough to think of making a needle-book, and giving it to an angel whose abode was in heaven, where no pain or poverty ever had entered,—he felt so humbled that he sank his head down among the bright fresh primroses and wild hyacinths which were springing up through the dry brown oak leaves which carpeted the thicket where he sat, and a strange discomfort gnawed his soul.

A far stranger, far bitterer discomfort gnawed the soul of another being who was pacing that thickly-wooded hill-side. Whilst Johnny had watched Honoria so gaily riding in her scarlet jacket, joyous and strong as the brisk March morning, a mournfully brooding woman had drawn near to him, her eyes cast towards the earth; but seeing nothing there—no violets, no fresh verdure, no lovely snail-shell freshly burnished with gold and purple for the new year, no happy bird pulling bents and leaves for its building nest—those eyes only saw the phantom of a beloved, lost son.

She was Leonard's mother.

All through the winter had she ever and anon put forth in the papers appeals "to a tenderly beloved and anxiously mourned over absent son;" she had besought "L. M. to communicate with his heart-broken mother." "As L. M. valued the earthly and eternal welfare of a parent, he was besought to write—to forgive, and all should be forgiven." But Leonard read no paper, communicated his history to no one in the great metropolis which had swallowed him up, and thus the heart-broken mother lived on in a sickening despondency. She had quitted her brother's, and lodged in a squalid part of the town, refusing all assistance from, and all intercourse with, him. Her days were spent in restless wanderings; she had tramped the country far and wide in search of him she had lost, ever returning with a sick hope to Nottingham, hoping—longing—that the young bird might have returned weary to the nest. She was this morning upon one of her rambles: she was always expecting to meet Leonard in some sylvan haunt—she had seen his phantom many a time standing in Clifton Grove, and other solitary spots, picking up mosses and stones and flowers; and when, with wide open arms, she had sprung towards the figure with a shriek of joy, the form had melted into a tree or bush!

Johnny heard a wild cry at his ear—a form hovered above him—he was madly clasped to a woman's heart—his eyes, his hair, his hands, his clothes were kissed—tears, hot as molten lead, burnt upon his hands, his brow—and a pair of large, bright, flashing eyes gazed at him—and then the woman flinging him with violent indignation from her, her face changed instantaneously from most passionate love to intensest anger; he saw in giddy amaze, as he cowered against a tree-stem, the woman press his little pictures, his little needle-book, and the flowers with which he had adorned his little basket, as madly to her lips—to her heart—as she had pressed him but a moment before.

"My boy! my Leonard! they have murdered thee!" shrieked in wild accents the strange woman. "Thy flowers! thy pictures! thy dear, dear pictures! they have taken them from thee, thou art despoiled, thou art slain! But vengeance! vengeance!" shrieked she, springing up a maniac. "Vengeance is mine, quoth the Lord," and she sprang towards the tree where a moment before Johnny had stood. But Johnny had slipped down in horror and haste by a steep pathless bank, and leaping from point to point, and clinging by roots and ivy trails, had escaped, with the agility of terror, from the mad-woman.

Honoria was still careering upon her white pony over the pasture-field, but he heeded her no longer; the dogs barked with deep-mouthed echoes from the Hellings, but it was only the cry of the strange woman that rang in his ears.

Bathed in perspiration, and white as a ghost, with his clothes torn by briars and stumps of trees, panting and breathless, he burst into the cottage of his grandmother, and fell fainting upon her bed.

THE ART OF TURNING.

Turning is the art of giving a circular form to a variety of materials. It is employed in manufacturing articles of wood, bone, ivory, horn, marble, albata, stone, diamond, glass, steel, and all metals. It is an art of great antiquity, and vast importance in practical science. It includes many varieties requiring different arrangements of machinery, from the simple throwing-wheel of the potter to the complicated slide-lathe. There is great versatility in the mode of operation, but the principle is the same throughout. Thus, the material to be turned may be made to revolve round its own axis, and the cutting-tool applied to its surface so as to produce the requisite form as in the simple turning performed in the lathe commonly used by cabinet makers; or the article may be made to continue stationary while the cutting instrument revolves; or it may be made to move in some curve derived from circular motion, and the cutting-tool applied as before;—the action may be changed in a variety of ways, and all the motions may be more or less continued, but the simple mechanical operation still continues the same, and under the head "turnery" are comprehended all operations performed with the turning-lathe.

The art of turning is employed in almost every branch of manufacture; snuff-boxes chess-men, children's toys, cups and balls, cases, spinning-wheels, table legs, tools for embroidery, reels, billiard balls, and a host of other things which we daily use, we owe to the skill of the turner. When we are at peace, he supplies all that can contribute to our comfort and convenience, in business, in pleasure, in scientific investigation; and when we are at war, he turns out pieces of artillery with a finish and perfection altogether unattainable by any other means. The cannon being cast solid, the outside cools first, with a close sound grain, and the porous or spongy parts of the metal are found in the centre. This is afterwards turned or bored out in an engine-lathe, which leaves the inner surface perfectly true, and the bore of an equal diameter.

There is no manufacturing operation so general as turning. It is used to fashion the rudest shapes, and also to bestow the highest polish. The lathe works with automatic precision. Without it the operative must labour at all parts of his work with care and trouble to produce a regular figure, and after all only partially succeed. The value and principle of the lathe has been summed up in a few words:—for every point marked by the workman it produces a circle; and is a machine for moving the material to be wrought in such a manner that, being fixed opposite to the tool, any point in the circumference will act upon the whole circle in precisely the same way.

Turnery is not only a *useful* branch of art, but it is one of peculiar *interest*, and many have found it an agreeable *relaxation*. In our article we do not propose furnishing a complete history or description of the process; but as there are hundreds who possess some taste for the mechanical arts to whom some general information may be acceptable, we intend indicating the most simple process of turnery, and presenting therewith engravings of the machinery employed, and of the most interesting and most useful results of the process.

The workshop in which a lathe is to be employed should be carefully selected. It should neither be exposed to the direct rays of the sun, nor yet so situated as to be affected by damp, and the lathe should be so placed that the light may fall from the left-hand side.

The most simple and primitive lathe is formed by two upright pieces, each having a conical iron or steel point fixed on the side opposite the other, the two points directly opposite one another. One of these uprights, called puppet heads, is stationary, the other moveable, so that it can be fixed at any part of the bed by a wedge beneath; the wood to be turned having been reduced to the desired length, the centre of one of its ends is pressed against the point of the fixed puppet; the point of the other puppet is then brought against the centre of the other end, and the puppet wedged firmly in its place; over the lathe, and at right angles to it, is a long flexible wooden pole or lath—whence the term *lathe*—one end fixed firmly overhead; the other, which must be just over the end of the work nearest to the left-hand puppet, has a cord or a cat-gut attached to it, which passes once or twice round the work, and is fixed at the lower end to a treadle; the oppression of the treadle and counteraction of the pole give an alternate rotary motion to the work. The workman rests the tool upon the top of a fixed piece between the two puppets, and close to the work. This is called a rest, but can only be applied during the fall of the treadle, and thus a great loss of time is occasioned; and on this account the pole lathe is now but little used.

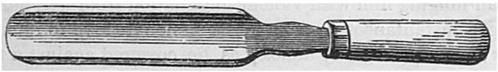

FIG. 3.

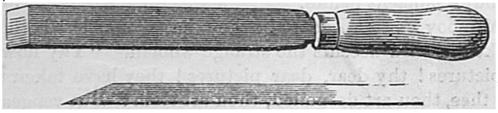

FIG. 4.

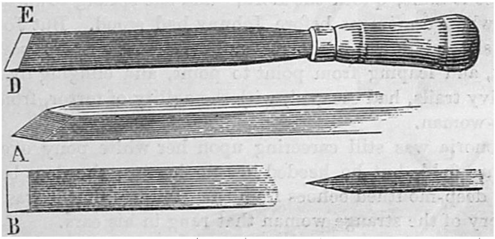

FIG. 5.

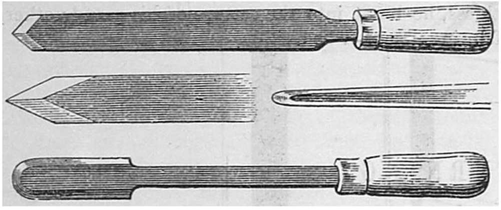

FIG. 6.

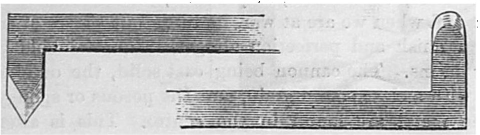

FIG. 7.

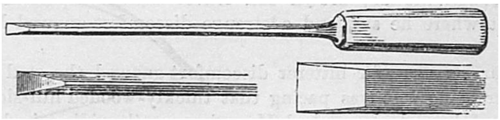

FIG. 8.

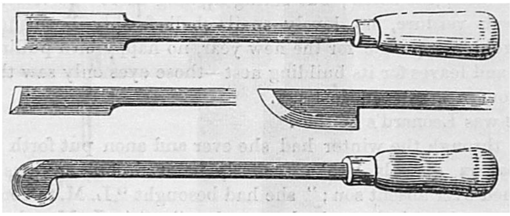

FIG. 9.

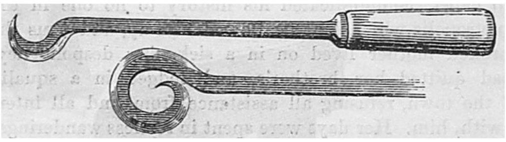

FIG. 10.

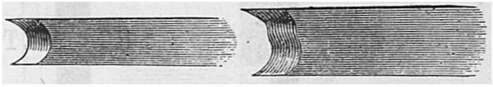

FIG. 11.

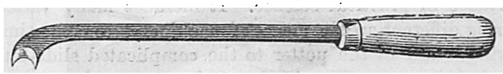

FIG. 12.

FIGS. 3 TO 12.—GOUGES AND CHISELS OF VARIOUS KINDS.

A slight modification of this principle is represented in fig. 1.

The piece of wood (A), previously prepared, is placed between the points B B, which are fixed in the uprights; the puppets, C C, arranged according to the length of the piece of wood to be turned, and the whole is supported in the table, D D. A cord, E, is turned twice round the piece of wood, A, which cord is fixed underneath the frame-work to a treadle, F, and is attached above to the cat-gut string of a steel bow (G), perfectly flexible and securely fastened to a beam. As the wood is made to revolve, the tool (H) is applied, resting as before on a slight support, and thus the form of the article to be turned is modified according to the direction given by the hand of the workman. On page 125 is an enlarged view of the working part of this lathe; the reference figures being common to both.

Another description of foot lathe is represented (fig. 2). This is of excellent construction, and is adapted to all ordinary work. It is of cast-iron, but is mounted in much the same way as the other lathe. But whilst in the last mentioned case the material to be turned had to be supported at both ends in the puppet, the lathe now under consideration is adapted principally for the work which does not require such support, and is sustained on a single point, by an axletree of iron.

To the left of the turn-bench an apparatus is strongly fixed by two screws, on which the tools used in the operation are allowed to rest.

In giving the ordinary movement to the treadle, A, the large wheel B and the corresponding small wheel, C, are set in motion, the cord, D, passing over both wheels, and communicating to them a rotary movement, a movement which rapidly turns the iron axle, E, the end F of which is adapted to the purposes of the turner, and is called the nose. The nose is cut with a coarse screw to receive the instrument named the mandril, G, and the mandril receives upon it the article to be turned, H.

When the article which is to be turned, I, is long and flexible, it is fixed in a sort of rest at the point K, which is established in the same manner as the other.

The tools used in turning are very numerous, and of great variety. We can only mention a few of them, and those the most commonly in use. The principal and most indispensable are the following:—the gouge (fig. 3), which is used to rough out the work, and is chiefly employed in wood-turning; chisels (fig. 4) with a cutting edge and sharp point; chisels sharpened on both sides (fig. 5), so as to form two right angles with the sides A B of the tool; others are formed on an acute angle, E, and on an obtuse angle, D. Drills, and chisels, and gouges, are used of every conceivable shape—straight, oblique, double angular, curved, hollow, semi-circular—according to the form of the work (figs. 6, 7). The ripping chisel (fig. 8) is chiefly used to make the first opening, which is afterwards enlarged by other tools. Instruments indicated at fig. 9 are principally employed in wood-turning. The hooked tools are used for turning the interior of an orifice. Figs. 11 and 12 are other specimens adapted for particular work.

For finishing the work, gravers of different sizes and shapes are used. The drills and tools are generally made so as to be used with a hook held upon the rest to the left hand. This allows much more freedom to the operator.

Chucks are employed for holding the work, and are of various descriptions; the three principal being the common chuck, the ring chuck, and the screw chuck.

The common chuck is very simple in its construction. It is a small cylinder, two or three inches long, varying in thickness according to the size of the article to be turned. The interior is fitted for a screw, and while the end, A, is screwed to the nose of the lathe, the work is attached to the extremity marked B.

The ring chuck is four or five inches long. That part which is screwed to the lathe is the same as in the other chuck, but the other part is very much longer, is separated into four pieces, and diminishes in size toward the extremities, A. The work can thus easily be introduced, and is firmly held by a metal band, B, which presses down the sides of the chuck. This renders the operation of turning much more perfect and

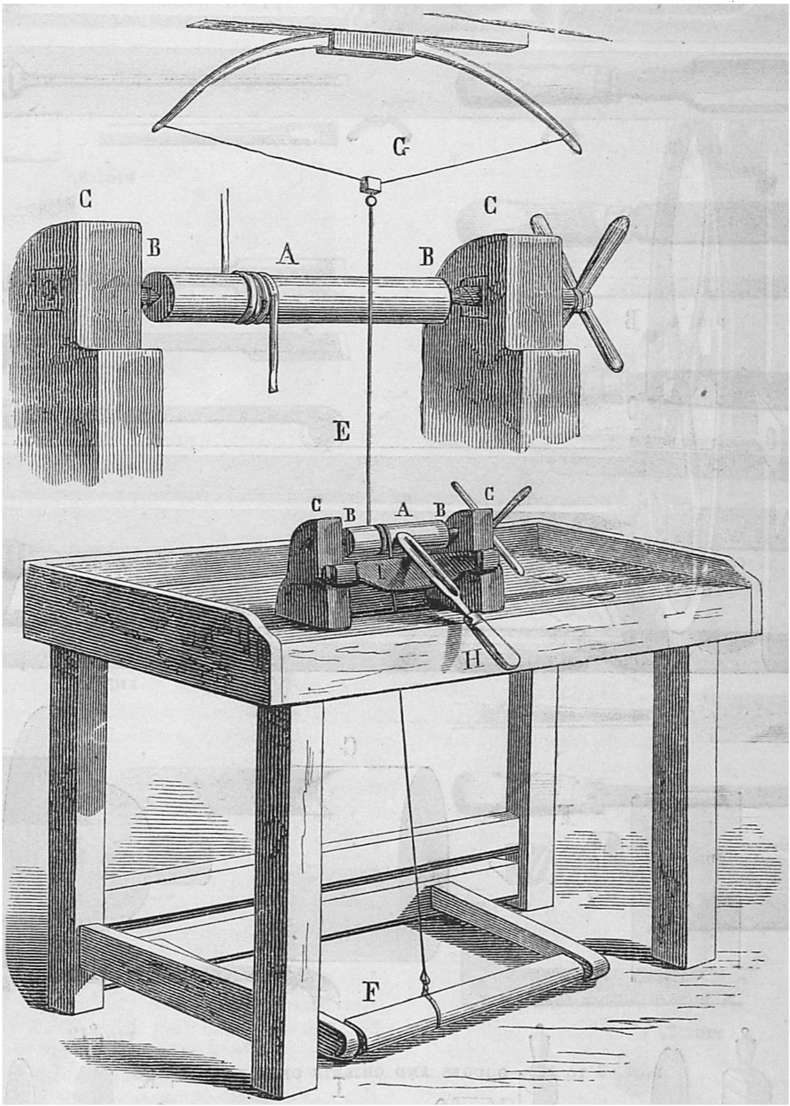

FIG. 1.— SIMPLEST FORM OF A LATHE.

easy than when the material is held by the common method. It is perfectly secure, and the work can be continued without any fear of accident by the looseness of the chuck.

The screw chuck is a circular plate of metal, with a boss at the back tapped to screw upon the nose of the mandril. The face is turned quite true, and in the centre is a coarse conical screw to hold any large piece of wood to be turned; a hole being made in the centre of the work, it is screwed tight up against the face, and no further adjustment is required.

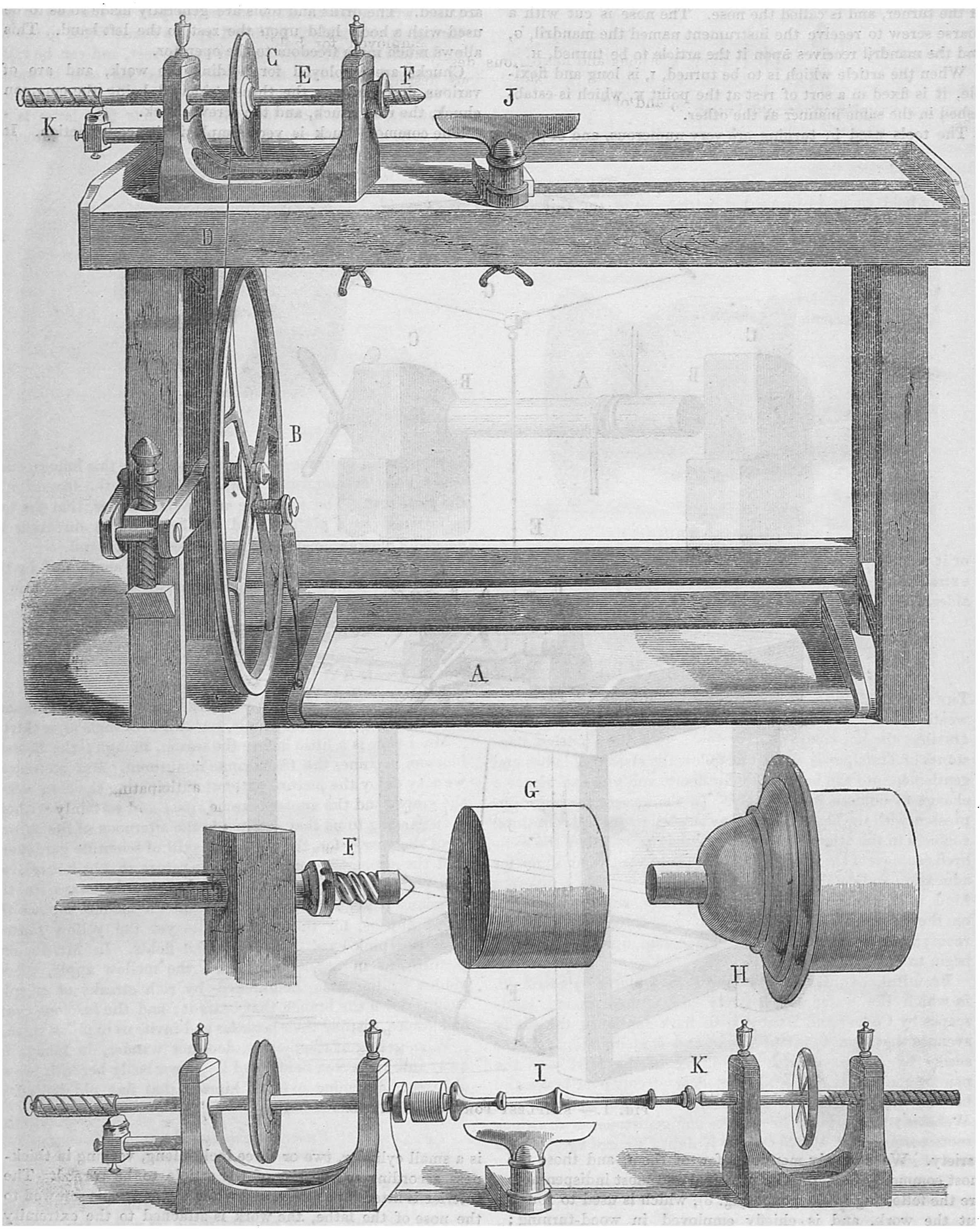

FIG. 2.—FOOT-LATHE.

Screw tools are important appendages to a lathe, and with the engineer are in constant use. They are filed up with several teeth exactly the shape of the spaces between the threads, and are applied in the following manner:—The piece of metal having been turned to the proper size and shape, the workman holds the tool in his right hand upon the top of the rest; then, clasping the rest with his left hand, he places the thumb across the tool, and gives the point a circular motion towards the left as the work revolves; this operation he repeats until a few threads are cut near the point, which serve as guides for the next, and so on till the screw is finished. This operation requires very great care. The tool must be firmly held, so as to prevent it getting out of the thread and spoiling the screw. But, though held firmly, the pressure must be light, especially when the screw is of any great length, or it will vary and become untrue. Screws are thus cut with extraordinary facility, but it requires a steady hand and considerable practice.

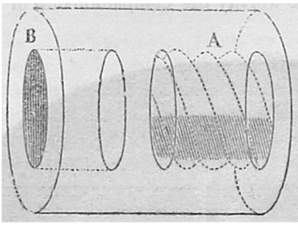

FIG. 13.—COMMON CHUCK.

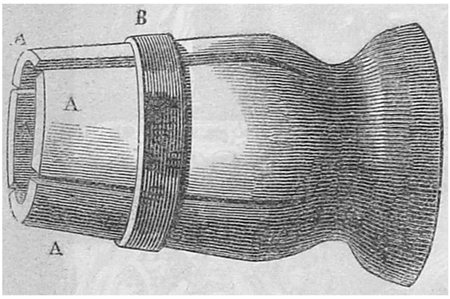

FIG. 14.—RING CHUCK.

In the operation of turning a circular saw is very frequently used. This is especially the case with ivory turners. The saw is placed upon a spindle against a projecting collar, and held in its place by a washer and nut; the spindle is held between the mandril and front puppet, and over it is a small table, with a slit to allow the upper part of the saw to pass through; this table is mounted upon a frame fitted to the bed of the lathe in the same manner as the rest, and can be raised or lowered according to the depth that the saw is wanted to cut.

But one of the most important adjuncts to a lathe is the *slide rest*. When the tool is held in the hand it is subject to any unsteadiness in the workman. To obviate this imperfection was a great desideratum: it was effected by the invention of the slide rest. The principle of the slide rest is, that the tool is fastened to a plate moved in the required direction by means of a screw, instead of being held in the hand.

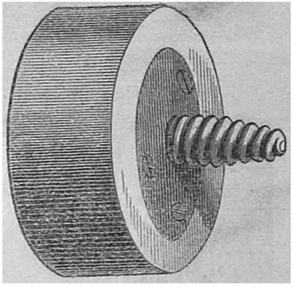

FIG. 15.—SCREW CHUCK.

We have thus briefly specified the tools employed in the process; in another paper we shall give some description of the process itself.

A FRUIT PIECE, BY LANCE.

The next best thing to a country trip in this bright summer weather, is a stroll through the rooms of the Royal Academy. Outside, the hot sun is shining down upon the shadeless flagstones of Trafalgar-square; but follow the stream of ladies and gentlemen into the hall of the Academy, and you experience a change of climate immediately. In the streets you were oppressed with the heat; here, there is a delightful and refreshing coolness in the atmosphere, which is only equalled by the well-bred coolness of the gentleman who takes your two shillings for admission and catalogue. And so, feeling entirely a different kind of personage to him who, just now, stood and wearied on the pavé outside, you pass at once into the great west room; and, assuming the air of a nonchalant, quiet connoisseur, begin to examine the pictures.

Beautiful, exquisite, refreshing! Sea pieces by Stanfield, in which the water is positively cool to look upon; landscapes by Cooper and Danby, with dark depths in the shady avenues that seem to invite repose and contemplation; forest scenes by Landseer, with "Children of the Mist"—as the painter chooses to call a herd of deer—flying over brake and brook; village scenes and domestic incidents by Frith and Webster; portraits, of fine ladies and gentlemen in drawing-room costume, by Mr. Secretary Knight; figures by Eastlake and Mulready, and flowers and fruit by Lance.

These last,—in a greater degree, perhaps, than any of the others—have a cool and pleasant look. How tempting the round ripe apples; how inviting the luscious grapes, both black and green; how exquisitely toothsome the rough mottled skin of the green fig! And then with what art the painter has introduced rich silver tankards and brightly painted porcelain ware, and dark carved woodwork into his picture; and how well the great green and red-dappled vine-leaf contrasts with the crimson velvet of the table-cover, and the hangings at the back; surely, Mr. Lance must be a great lover of fruit and flowers! For ourself, we say unblushingly, that we have quite a child's love for both—the only remnant of youth that, with most people, remains with them after thirty.

Mr. Lance is a little before the season, though; the flowers blossom in June, the fruits come in autumn. But no matter, we may enjoy the picture without anticipating the time when the grapes and the apples become ripe; and certainly without it suggesting to us that autumn is the afternoon of life as well as of the year,—for, thanks to the skill of scientific gardeners, and the properly-regulated temperature of hot-houses, we can obtain fruit all the year round! Not always do the delicious fruits which form the painter's models replace the faded flowers, for they exist while yet the yellow buttercups and pink-eyed daisies dot the fields. In Mr. Lance's pictures, as in an old orchard, "the mellow apple, whose golden brilliancy is heightened by rich streaks of purple, weighs down the branch that bears it; and the luscious pears and grapes, display their beauties and invite us to pluck them."

Who, gazing at the picture, does not wander, in fancy, far away into the green fields, and lie down lazily beneath brown old trees, humming over to himself that fine old ballad of Shakspeare's, which begins—

> "Under the greenwood tree
> Who loves to lie with me?"

or, curbing his imagination, and trusting to his less fickle memory, recall some incident of his youth, associated with flowers and fruit? Some orchard frolic, in which fair girls and brown hearty boys—who are staid men and women now with girls and boys of their own, perhaps,—took joyous part? some happy winter meetings, in which those who shall meet no more on earth, sang songs together and made a merry noise, and gathered factitious fruit and artificial flowers from Christmas trees of green and gold?

In the exquisite design which the courtesy of the painter